

### ABSTRACT

An improved telephone system over a single telephone line within a residence or other building is disclosed, supporting exchange features and enabling easy expansion for multiple external lines. The existing telephone wiring is used as the medium for a local data communication network, carrying multiple voice channels. In each outlet, one or more voice channels are converted into a standard telephone-line interface. Life-line functionality is facilitated by using the lower band of the spectrum isolated from the data communication network, and a dedicated connector in the outlet provides access to this band. External telephone feeders are converted to digital form for interfacing to the in-home data communication network.

050755 084500